

Fact Sheet



*For Final Permitting Action Under 45CSR30 and
Title V of the Clean Air Act*

Permit Number: R30-00300006-2006

Plant Identification Number: 003-00006

Permittee: ESSROC Cement Corporation

Facility Name: Capitol Cement Corporation

Mailing Address: 3251 Bath Pike, Nazareth, PA 18064

Physical Location:	Martinsburg, Berkeley County, West Virginia
UTM Coordinates:	243.50 km Easting • 4369.00 km Northing • Zone 18
Directions:	Take south Queen Street Exit off of WV State Route 45 at Martinsburg. The facility is 0.5 miles south to end of Queen Street.

Facility Description

Capitol Cement Corporation (CCC) (SIC Codes 3241 and 1422) owns and operates a cement manufacturing plant near Martinsburg, Berkeley County, WV. The plant is a wet process type that uses primary coal and petcoke. The kilns produce cement clinker, an intermediary product of cement, which is then ground into finished cement. The nominal capacity of the plant is 960,000 tons of cement per year. Capitol uses approximately 150,000 tons of coal annually and flyash from electric power plants. Capitol also has the ability to burn petroleum hydrocarbon contaminated soils that were generated onsite in their three rotary cement kilns. The facility has the potential to operate twenty-fours (24) hours a day for seven (7) days per week for fifty-two (52) weeks per year.

Emissions Summary

Plant-wide Emissions Summary [Tons per Year]		
Criteria Pollutants	Potential Emissions	2003 Actual Emissions (Estimated)
Carbon Monoxide (CO)	4493	35.464
Nitrogen Oxides (NO _x)	6,631.5	4,312.58
Particulate Matter (PM ₁₀)	1,028.7	698.817
Total Particulate Matter (TSP)	1,854.6	1080.00
Sulfur Dioxide (SO ₂)	9,741.0	6,334.64
Volatile Organic Compounds (VOC)	14.6	8.71
Lead (Pb)	3.7	2.097
<i>PM₁₀ is a component of TSP.</i>		
Hazardous Air Pollutants	Potential Emissions	2003 Actual Emissions (Estimated)
Fluorine	1.2	
Dioxin/Furan		
Hydrochloric Acid		
Hydrofluoric Acid		
Class I and Class II Substances		0.01

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

This facility has the potential to emit over 100 tons of Nitrogen Oxide, Particulate Matter, and Sulfur Dioxides. Capitol Cement Corporation is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30, because the facility's potential to emit greater than 100 tons per year of any one of the criteria pollutants

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR1	NO _x Budget Trading Program
	45CSR5	Coal Preparation Plants and Coal Handling Operations
	45CSR6	Open burning prohibited.

	45CSR7	To prevent and control of particulate matter air pollution from manufacturing processes and associated operations
	45CSR10	Prevent and Control air pollution from the emission of sulfur oxides
	45CSR10A	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation
	45CSR14	Permits for Construction Struction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	40 C.F.R. Part 60 Subpart Y	Standards of Performance for Coal Preparation Plants
	40 C.F.R. Part 60 Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants
	40 C.F.R. Part 61 Subpart M	Asbestos inspection and removal
	40 C.F.R. Part 63 Subpart LLL	National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry
	40 C.F.R. Part 68	Risk Management Plan at the date of permit issuance, this stationary source was not subject 40 CFR 68
	40 C.F.R. Part 82	Depletion of Stratospheric Ozone
State Only:	45CSR4	No objectionable odors.
	45CSR7A	Compliance Test Procedures 45CSR7. (Sections of this rule are Federally enforceable since those sections have been SIPed.)

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR15, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-1674C	May 7, 2004	
Class 1 Administrative Update to remove all Tire Derived Fuel references from pervious permit		
R14-026	June 2, 2005	R14-026A; October 11, 2005
To replace two existing long wet process cement kilns and associated clinker coolers with a modern precalciner kiln system and related equipment.		Class I Administrative Update to remove the requirement to make Condensable Particulate Matter test results enforceable.

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Title V Emission Unit Table

The Emission Unit Table in the Title V Permit is for information purposes and it is not intended to create new applicable requirements.

Determinations and Justifications

1. 45CSR7 Control of Particulate Matter from Manufacturing Process. 45CSR§7-3.1 and 45CSR§7-3.2

The Capitol Cement facility is subject to opacity standard and compliance will be demonstrated by conducting monthly visible emission observations followed by 45CSR7A tests unless corrected within 24 hours. This does not apply to equipment subject to 40 C.F.R. Part 63 Subpart LLL. Records are to be kept.

WVDAQ believes that the above periodic monitoring approach for this facility is appropriate. DAQ bases this on the rule's requirements to install, inspect and maintain fugitive dust control systems for equipment identified in the permit for the emission sources listed in the Emission Unit Table 1.0 and EPA's prior approval of other similar provisions.

In addition, DAQ believes that by the Permittee maintaining the baghouse monitoring requirements as outlined in the Section 3.2.13 of the Title V Permit, will be sufficient for the Permittee to maintain overall removal efficiency for each baghouse listed in the Emission Unit Table 1.0.

Particulate emissions from the Primary and Secondary Crushing and Screening facility are controlled by pressured water sprays and a dust collector between the primary screen (1-VS-1) and belt conveyor (1-BC-3). Since this section of Capitol Cement does not have a permit or application that provides maximum particulate emissions, Table 45-7A of 45CSR§7-4.1 was used to determine the maximum allowable emissions limit is 50 pounds per hour based on 805 tons per

hour feed rate. Proper operation and maintenance along with weekly inspection and regular replacement of the dust collector filters shall demonstrate compliance.

In addition to inspection and replacement of the dust collectors filters and inspecting the water spray nozzles, the permittee will show compliance by conducting weekly visible emission inspections that can also be used to identify a problems with the facility, which could result in excess emissions.

Capitol shall demonstrate compliance with the Clinker Coolers # 7 (EP10.02) and # 8 (EP11.02) cooler dust filters (Sections 5.1.37 and 4.1.3, respectively) by operating and maintaining a minimum collection efficiency of 99.96% for particulate matter by stack testing. 40 C.F.R. Part 63 Subpart LLL requires the cooler dust filters to be stack tested every five years.

Capitol installed continuous opacity monitors Clinker Coolers # 7 stack (009) and # 8 stack (010), see Sections 5.1.37 and 4.1.3, respectively. They are to operated and maintained the continuous opacity monitors in accordance with 40 C.F.R. 60. This installation will assist them in maintaining the 10% opacity requirement in Sections 4.1.5 and 5.1.30.

Capitol shall demonstrate compliance with particulate matter emissions limitations of Sections 5.1.2, 5.1.22, and 5.1.23 by stack testing per Sections 5.3.8 and 5.3.9. The frequency of stack testing depends on the margin of compliance of the previous PM stack tests versus the allowable limits.

2. 45CSR§7-3.7

The enclosed Waste Dust Bins (EP13.01 and EP13.02), Dust Loadout Bin (EP13.03 and EP13.04), Scoop Dust Bin (EP13.08), East Bank Silos (EP20.01), Middle Bank Silos (EP21.01), West Bank Silos EP22.01), Bins - Bulk Loading Plant (EP.01), Bins – North Bulk Loading Plant (EP24.02), Bins – South Bulk Loading Plant (EP24.03), Bins – Masonry Bulk Loading Plant (EP24.04), Fly Ash Silos (EP31.01 and EP31.02), and Fly Ash Loadout Bin (EP31.03) are to maintain no visible emissions. Visible emission inspections are required on a weekly basis in order to demonstrate compliance. The periodic monitoring approach mentioned above applies. Compliance with this streamlined opacity limit assures compliance with 40 C.F.R. 63 Subpart LLL, which has a 10% opacity limit.

3. 45CSR§7-4.1

The allowable particulate matter (PM) stack emission rate for the Capitol Cement sources are based on the maximum raw material feed rate to their facilities. The wet cement kilns are identified as a Type ‘c’ source operation and the other sources are a type ‘a’ source operation, per 45CSR§7-4.1, are shown in table:

<i>Old Sources</i>	<i>Process Weight Rate</i>	<i>Allowable Stack Emission Rate</i>
Description	TPH	lb PM/hr
Crushing Facility Equipment Group 001	805 Each	50
Secondary Crushing Facility Equipment Group 002	805 Each	50
Tertiary Crushing Facility Equipment Group 003	805 Each	50
Kiln Number 7 and Associated Equipment Group 006	35 Each	45.6

<i>Old Sources</i>	<i>Process Weight Rate</i>	<i>Allowable Stack Emission Rate</i>
Description	TPH	lb PM/hr
Kiln Number 8 and Associated Equipment Group 007	35 Each	45.6
Kiln Number 9 and Associated Equipment Group 012	58 Each	56.6
Dust Bin Waste and Associated Equipment Group 013	200 Each	43
The Handling Equipment of Clinker Group 014	540 Each	50
Finish Mill Number 7 and Associated Equipment Group 016	30 Each	31.4
Finish Mill Number 8 and Associated Equipment Group 017	30 Each	31.4
Finish Mill Number 9 and Associated Equipment Group 018	30 Each	31.4
Finish Mill Number 10 and Associated Equipment Group 019	180 Each	43.6
East Bank Silos and Associated Equipment Group 020	145 Each	39.7
Middle Bank Silos, Masonry Silo and Associated Equipment Group 021	177 Each	41.6
West Bank Silos and Associated Equipment Group 022	145 Each	39.7
Loadout and Packaging Equipment Group 023	100 Each	37
Bulk Loadout Equipment Group 024	320 Each	50
Silo Flyash Equipment Group 031	50 Each	33
<i>New Sources</i>	<i>Process Weight Rate</i>	<i>Allowable Stack Emission Rate</i>
Description	TPH	lb PM/hr
Quarry and Crushing Equipment EU1	805	50 Each
Raw Material Preparation Equipment EU2	387.63	50 Each
Pyroprocessing Equipment EU3	416.89	50 Each
Kiln Number 7 Equipment Group 006	35	45.6 Each
Clinker Handling and Storage Equipment EU4	252.61	47.2 Each
Cement Production Equipment EU6	180	43.6 Each
Shipping Equipment EU7	320	50 Each
Other Miscellaneous Sources EU8	320	50 Each

4. 45CSR10 Control Limits of Sulfur Dioxide from Rotary Kiln

The Kiln #7, Kiln #8, and Kiln #9 are subject to 45CSR§10-4.1, as the potential to emit for SO₂ for coal is greater than 500 pounds/year. 45CSR§10-4.1 requires a concentration based SO₂ limit of 2,000 ppmv. Because the alkaline nature of the cement provides for direct absorption of the sulfur dioxide into the product, the quantity of sulfur dioxide emissions is reduced.

In accordance with Capitol Cement's 45CSR10 Monitoring Plan, Capitol Cement will monitor the kiln oxygen level. When excess oxygen is present, the kiln is a natural scrubber for sulfur dioxide. Capitol Cement will record the oxygen level on an hourly basis in their control room and maintain this record on-site for a period of at least five (5) years in accordance with 45CSR10A, Section 7. Capitol Cement will submit a "Monitoring Summary Report" and an "Excursion and Monitoring Plan Performance Report" on a quarterly basis to the Director by the 30th day of the month following the calendar quarter.

The precalciner kiln system will be equipped with a continuous emission monitor (CEM). Compliance with the new kilns' SO₂ emission limits should be not a problem since the SO₂ is reduced by the natural scrubbing action of the limestone.

5. 45CSR5 --- TO PREVENT AND CONTROL AIR POLLUTION FROM THE OPERATION OF COAL PREPARATION PLANTS, COAL HANDLING OPERATIONS AND COAL REFUSE DISPOSAL AREAS

Capitol's existing coal handling operation is subject to the 20% opacity requirement of 45CSR5.

Capitol Cement Corporation is replacing two existing long wet process cement kilns and associated clinker coolers with a modern preheater-precalciner kiln system and related equipment, R14-026. The modified and new equipment associated with the coal handling will be subject to 45CSR5.

6. 45CSR14 --- PERMITS FOR CONSTRUCTION AND MAJOR MODIFICATION OF MAJOR STATIONARY SOURCES OF AIR POLLUTION FOR THE PREVENTION OF SIGNIFICANT DETERIORATION

Capitol Cement Corporation is replacing two existing long wet process cement kilns (Kilns 8 and 9) and associated clinker coolers with a modern precalciner kiln system and related equipment. Kiln 7 will remain at the facility and will be used to make a limited amount of clinker including certain specialty (colored) clinkers. The clinker production from the new kiln line at Martinsburg will have a nominal annual clinker production rate of approximately 2.2 million tons per year.

Capitol Cement is revamping the Quarry and Crushing, Raw Material, Clinker Handling and Storage, Fuel Handling, Cement Production, and Shipping facilities.

DAQ believes that the Permittee will demonstrate compliance for the precalciner kiln system by installing continuous emission monitoring for nitrogen oxides, carbon monoxides, and sulfur dioxides. The Permittee will stack test and keep production data for the volatile organic compounds, total suspended particulates, and particulate matter (PM₁₀). Permittee will also demonstrate compliance for Kiln #7 by stack testing and maintaining production data. The Permittee will install continuous opacity monitors on the precalciner kiln, Kiln #7, and the clinker coolers.

7. 40 C.F.R. Part 63 Subpart LLL - National Emissions Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry

Capitol Cement Corporation is a major source that is subject to 40 C.F.R. Part 63 Subpart LLL. The following listing of equipment and/or process with their emission and operating limits are covered under this MACT:

Equipment/ Process	Capitol Cement Equipment/Process	Capitol Cement Emission Point ID	Emission and Operating Limits
Kiln	Kiln #7	EP10	≤ 0.15 kg/Mg or 0.30 lb/ton Dry Feed of PM (PM measured via EPA Method 5, front-half only)
	Kiln #8	EP11	
	Kiln #9	EP12	≤ 20% Opacity, six minute block average
	New Raw Mill Kiln	EP42.04	≤ 0.20 ng TEQ /dscm of Dioxns/Furans or
			0.40 ng TEQ/dscm when the average of the performance test run average particulate matter control device (PMCD) inlet temperatures is 204 °C or less. [Corrected to 7 percent oxygen] Operate such that the three- hour rolling average PMCD inlet temperature is no greater than the temperature established at performance test.
Clinker Cooler	Kiln #7 Clinker Cooler	EP10.02	≤ 10% Opacity and
	Kiln #8 Clinker Cooler	EP11.02	≤ 0.050 kg/Mg of Dry Feed PM or
	Kiln #9 Clinker Cooler	EP12.02	≤ 0.10 lb/ton of Dry Feed PM
	New Clinker Cooler	EP43.01	(PM measured via EPA Method 5, front-half only)
Raw Mills	Raw Mills	EP09.01	≤ 10% Opacity, six minute block average
Finish Mill	#7 Finish Mill	EP16	≤ 10% Opacity, six minute block average
	#8 Finish Mill	EP17	
	#9 Finish Mill	EP18	
	#10 Finish Mill	EP19	
	#11 Finish Mill	EP44.09	
	#12 Finish Mill	EP44.13	
Material Handling Processing	Material Handling Points	EP01, EP02, EP03, EP04, EP05, EP06, EP07, EP08, EP13, EP14, EP15, EP20, EP21, EP22, EP23, EP24, EP26, EP31, EU1, EU2, EU5, EU6, EU7, EU8	≤ 10% Opacity, six minute block average

TEQ - Toxicity Equivalent

8. 40 C.F.R. Part 60 Subpart Y, New Source Performance Standards for Coal Preparation Plants

Capitol Cement Corporation is replacing two existing long wet process cement kilns and associated clinker coolers with a modern preheater-precalfiner kiln system and related equipment in Section 5.0. The modified and new coal handling operation equipment associated with the fuel system will be subject to 40 C.F.R. Part 60 Subpart Y.

10. 40 C.F.R. Part 60 Subpart OOO, New Source Performance Standards for Nonmetallic Mineral Processing Plants

Capitol Cement Corporation is replacing two existing long wet process cement kilns and associated clinker coolers with a modern preheater-precalfiner kiln system and related equipment in Section 5.0. The modified and new equipment associated with crushing and conveying limestone to the raw material storage will be subject to 40 C.F.R. Part 60 Subpart OOO.

11. New and Modified Facilities

Capitol will amend their Title V Application to provide information on the equipment that is listed in the Emission unit Table of the Title V Permit. Their PSD application listed this information to be determined (TBD). They will amend the Title V Permit for provide information that is missing from the Title V Permit.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

40 C.F.R. Part 60 Subpart Y (October 24, 1974)	Standards of Performance for Coal Preparation Plants do not apply to Capitol since Capitol began their existing coal handling operation prior to October 24, 1974, and 40 C.F.R. § 63.1356 (b) says that the conveying system transfer points used to convey coal from the mill to the kiln that are associated with coal preparation at a portland cement plant are not subject to Subpart Y. Capitol proposed coal handling operations will be subject to 40 C.F.R. Part 60 Subpart Y when the modifications are completed.
40 C.F.R. Part 60 Subpart F (August 31, 1971)	Standards of Performance for Portland Cement Plants do not apply to Capitol since Capitol commenced construction or modification prior to August 17, 1971. Capitol is also exempt because it is regulated by 40 C.F.R. Part 63 Subpart LLL.
40 C.F.R. Part 60 Subpart LL (August 24, 1982)	Standards of Performance for Metallic Mineral Processing do not apply because lime or limestone is not metallic mineral.
40C.F.R. Part 60 Subpart OOO (August 1, 1985)	Standards of Performance for Nonmetallic Mineral Processing Plants do not apply to Capitol Cement since Capitol commenced construction or modification prior to August 31, 1983. The existing affected sources regulated by 40 C.F.R. Part 63 Subpart LLL are not subject to this NSPS. Capitol new and modified non-mineral facilities that are not subject to 40 C.F.R. Part 63 Subpart LLL will be subject to 40 C.F.R. Part 60 Subpart OOO when the modifications are completed.
60 C.F.R. Part 60 Subpart UUU (April 23, 1986)	Standards of Performance for Calciners and Dryers in Mineral Industries do not apply because lime or limestone is not listed as a mineral processed or produced in a mineral processing plant.
40 C.F.R. Part 72 (01/11/93)	Acid Rain Program General Provisions does not apply to Capitol Cement Corporation because it is not considered a Title IV (Acid Rain) Source.

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: November 16, 2005
Ending Date: December 16, 2005

All written comments should be addressed to the following individual and office:

Wayne Green
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Wayne Green
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Phone: 304/926-0499 Ext. 1258 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

Not applicable.